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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/753,368	01/09/2004	Jin Yong Kim	1740-000033/US	6405

30593 7590 01/10/2008

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EXAMINER	
GUPTA, PARUL H	

ART UNIT	PAPER NUMBER
2627	

MAIL DATE	DELIVERY MODE
01/10/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/753,368	KIM ET AL.	
	Examiner	Art Unit	
	Parul Gupta	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 October 2007*.

2a)☒ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9,10,13-17,19-29 and 33-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9,10,13-17, 19-29 and 33-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-7, 9-10, 13-17, 19-29, and 33-40 are pending for examination as interpreted by the examiner. The amendment and arguments filed on 10/9/07 were considered with the following results.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-7, 15, 17, 19-21, 23, 25-26, 29, and 33-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuroda et al., US Patent 6,735,155 in view of Tomita US Patent 7,266,753.

Regarding claim 1, Kuroda et al. discloses in figure 7 recording medium, comprising: a data area including at least two data sections ("new data" and "old data" areas); and a linking area (40) to link neighboring data sections, the linking area including at least two frame sync signals (shown in first 42 and second 42). Kuroda et al. does not but Tomita teaches the area where values of the at least two frame sync signals maintain uniqueness, wherein the data area further includes at least one sync signal which is different from the at least two frame sync signals included in the linking area (column 8, lines 4-40). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of unique signals as taught by Tomita

into the system of Kuroda et al. The motivation would be to make efficient use of the recording capacity (column 8, lines 35-40 of Tomita).

Regarding claim 2, Kuroda et al. discloses in figure 7 the recording medium of claim 1, wherein the linking area (40) includes at least two linking frames (42 and 42), a first linking frame and a second linking frame, wherein at least one frame sync signal is included in each linking frame (signal in each frame).

Regarding claim 3, Kuroda et al. discloses in figure 7 the recording medium of claim 2, wherein each linking frame (42) includes at least one frame sync signal (element 21) at a front of the linking frame. Column 12, lines 60-67 describes how the information area is used to accurately perform the consecutive reproduction of the recorded information. Thus, the section explains how the ID section is used to synch the old data and the new data, making it a sync signal. The same ID is used for both frames.

Regarding claim 4, Kuroda et al. discloses in figure 7 the recording medium of claim 1, wherein each frame synch signal (42) includes a frame synch number (44) and a frame synch ID (21). The same ID is used for both frames.

Regarding claim 5, Kuroda et al. discloses in figure 1 the recording medium of claim 1, wherein the data area includes at least one sync signal (21).

Regarding claim 6, Kuroda et al. discloses the recording medium of claim 5, wherein the at least two frame sync signals in the linking frames are different from a plurality of sync signals in the data area. As the ID information used in the sync process

is different in the data area than the linking area, the signals must inherently be different.

Regarding claim 7, Kuroda et al. discloses the recording medium of claim 1, wherein said at least two frame sync signals are different from sync signals written on a rewritable or recordable recording medium during data recording (column 12, lines 8-13).

Regarding claim 15, Kuroda et al. discloses in figure 7 the recording medium of claim 1, wherein a signal distance between the at least two frame sync signals maintains uniqueness. As the two given frames (42 and 42) have different sections in each frame, the signal distance must inherently be different.

Regarding claim 17, Kuroda et al. discloses the recording medium of claim 1, wherein the at least two frame sync signals maintain uniqueness over n frames, where $n \geq 2$ (explained in column 12, lines 8-15 by different functions of each sync frame).

Regarding claim 19, Kuroda et al. discloses a method of forming a recording medium, comprising: forming a linking area to link neighboring data sections of a data area while recording data onto the recording medium (column 12, lines 8-10), the linking area including at least two linking frames (shown in figure 7 as element 42); selecting values of at least two frame sync signals, to maintain uniqueness (column 12, lines 13-15 describe how the two are used for different purposes, suggesting different values); and writing the at least two frame sync signals in the linking area to link the neighboring data sections (column 12, lines 8-15). Kuroda et al. does not but Tomita teaches wherein the data area includes at least one sync signal which is different from the at

least two frame sync signals included in the linking area (column 8, lines 4-40). It would have been obvious to one of ordinary skill in the art at the time of the invention to include unique signals. The motivation would be to make efficient use of the recording capacity (column 8, lines 35-40 of Tomita).

Regarding claim 20, Kuroda et al. discloses a method of reproducing data from a recording medium, comprising: utilizing a linking area, including at least two frame sync signals, which maintain uniqueness and link neighboring data sections of a data area, to reproduce the data (column 12, lines 8-15). Kuroda et al. does not but Tomita teaches wherein the data area includes at least one sync signal which is different from the at least two frame sync signals included in the linking area (column 8, lines 4-40). It would have been obvious to one of ordinary skill in the art at the time of the invention to include unique signals. The motivation would be to make efficient use of the recording capacity (column 8, lines 35-40 of Tomita).

Regarding claim 21, Kuroda et al. teaches the method of claim 20, further comprises, determining whether or not a current position is a linking area based on at least one of the at least two frame sync signals. As the data pattern in the linking area is different from the data area (column 12, lines 8-13), the ability to determine the area based on the signal would be inherent.

Regarding claim 23, Kuroda et al. discloses the method of claim 20, wherein a data section has a plurality of frame sync signals (column 7, lines 1-12), and at least two frame sync signals of the linking area are different from the plurality of frame sync signals of the data section (column 12, lines 8-13).

Regarding claim 25, Kuroda et al. discloses a method of recording data on a recording medium, comprising: utilizing a linking area, including at least two frame sync signals, wherein the at least two frame sync signals maintain uniqueness and are different from a sync signal included in a data area (as the ID information used in the sync process is different in the data area than the linking area, the signals must inherently be different), to record the data (column 12, lines 8-15).

Regarding claim 26, Kuroda et al. discloses the method of claim 25, wherein a data section of the data area has at least seven different frame sync signals (column 7, lines 1-12), and the at least two frame sync signals of the linking area are different from the seven different sync signals of the data section (column 12, lines 8-13).

Regarding claim 29, Kuroda et al. discloses in figure 3 an apparatus for reproducing a recording medium, comprising: an optical pickup configured to read data of a linking area, which links neighboring data sections of a data area (column 12, lines 8-15). and includes at least two frame sync signals (shown in figure 7 as elements 42), wherein values of the at least two frame sync signals maintain uniqueness (as the ID information used in the sync process is different in the data area than the linking area, the signals must inherently be different); and a controlling unit configured to determine whether a currently read position is within the linking area based on at least one frame sync signal read by the optical pickup (column 9, lines 40-50 explain how the different areas are detected based on the given signals), and to control a reproduction according to a result of the determination (column 10, lines 24-53 and 61-67 explain what happens in each case). Kuroda et al. does not but Tomita teaches wherein the data area includes

at least one sync signal which is different from the at least two frame sync signals included in the linking area (column 8, lines 4-40). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of unique signals as taught by Tomita into the system of Kuroda et al. The motivation would be to make efficient use of the recording capacity (column 8, lines 35-40 of Tomita).

Regarding claim 33, Kuroda et al. discloses the recording medium of claim 1, wherein the at least two frame sync signals to be used in the linking area are different from a plurality of sync signals of the data area (column 12, lines 8-13).

Regarding claim 34, Kuroda et al. discloses the method of claim 19, wherein the writing step writes at least one frame sync signal (element 42 of figure 7) in each linking frame of the linking area (collective elements 42 at the bottom of figure 7).

Regarding claim 35, Kuroda et al. discloses the method of claim 34, wherein the at least one frame sync signal (first 42 at the bottom of figure 7) is written at a front of each linking frame of the linking area (collective elements 42 at the bottom of figure 7).

Regarding claim 36, Kuroda et al. discloses in figure 7 the method of claim 19, wherein each of the at least two frame sync signals includes a frame sync number (42) and a frame sync ID (21).

Regarding claim 37, Kuroda et al. discloses the method of claim 19, wherein the at least two frame sync signals are different from those written on a writable recording medium (explained in column 12, lines 8-34 by different functions of each sync frame written on the disk versus stored signals).

Regarding claim 38, Kuroda et al. discloses the method of claim 19, wherein the selected values of each of the at least two frame sync signals are different from values of frame sync signals of the data area (as the ID information used in the sync process is different in the data area than the linking area, the signals must inherently be different).

Regarding claim 39, Kuroda et al. discloses the method of claim 19, wherein the selected values of the at least two frame sync signals are different from each other (explained in column 12, lines 8-15 by different functions of each sync frame).

Regarding claim 40, Kuroda et al. discloses an apparatus of claim 29, wherein the controlling unit is configured to control the reproduction such that data within the neighboring data sections of the data area is reproduced continuously if it is determined that a currently read position is not the linking area (column 10, lines 24-53 explain that consecutive reproduction occurs while new data is recorded, meaning that the current position is the data area and not the linking area), and data within the linking area is not reproduced if it is determined that the currently read position is the linking area (column 10, lines 61-67 explains that no overwriting occurs in the linking area, meaning that reproduction is not performed while the current position is the linking area).

3. Claims 9-10, 13-14, 24, and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuroda et al. in view of Tomita in view of Sako et al., US Patent 6,971,024.

Kuroda et al. in view of Tomita teaches the limitations of claims 4, 23, 26, and 31, but fails to teach the further limitations of claims 9-14, 24, 27, and 32. Kuroda et al. in view of Tomita does not explicitly teach anything about the ID of the frame sync signal.

Regarding claim 9, Sako et al. teaches the recording medium, wherein each frame sync ID is set at the beginning of the frame (column 9, lines 12-20). Neither reference teaches a frame sync ID that is one of `100 101`, `101 010`, `010 101` and `101 001`. It would have been obvious matter of design choice to modify Sako et al. to have the specific values for the frame sync ID, since the applicant has not disclosed that those specific values solves any stated problem or is for any particular purpose and it appears that any ID numbers would perform equally well as long as they are unique in comparison to other regions.

Regarding claim 10, Sako et al. teaches the recording medium of claim 9, wherein a frame sync signal written in a first linking frame is one value and a frame sync signal written in a second linking frame is another (column 9, lines 12-20). Neither reference teaches the specific values of `100 101` and `101 010`. It would have been obvious matter of design choice to modify Sako et al. to have the specific values for the frame sync ID, since the applicant has not disclosed that those specific values solves any stated problem or is for any particular purpose and it appears that any ID numbers would perform equally well as long as they are unique in comparison to other regions.

Regarding claim 13, Sako et al. teaches the recording medium of claim 10, wherein a certain value follows the frame sync signal of each linking frame (column 9, lines 12-20). Nether reference teaches the exact value of `08h`. It would have been

obvious matter of design choice to modify Sako et al. to have the specific values for the frame sync ID, since the applicant has not disclosed that those specific values solves any stated problem or is for any particular purpose and it appears that any ID numbers would perform equally well as long as they are unique in comparison to other regions.

Regarding claim 14, Sako et al. teaches the recording medium of claim 13, wherein a certain value follows the previously given value for a remainder of the linking frame (column 9, lines 12-20). Nether reference explicitly teaches the values of `00h` and `08h`. It would have been obvious matter of design choice to modify Sako et al. to have the specific values for the frame sync ID, since the applicant has not disclosed that those specific values solves any stated problem or is for any particular purpose and it appears that any ID numbers would perform equally well as long as they are unique in comparison to other regions.

Regarding claim 24, Sako et al. teaches the method of claim 23, wherein one of the at least two frame sync signals is a frame sync signal of a certain bit pattern, and another is a frame sync signal of another certain bit pattern (column 9, lines 12-20). Neither reference explicitly teaches the values of "100 101" and "101 010". It would have been obvious matter of design choice to modify Sako et al. to have the specific values for the frame sync ID, since the applicant has not disclosed that those specific values solves any stated problem or is for any particular purpose and it appears that any ID numbers would perform equally well as long as they are unique in comparison to other regions.

Regarding claim 27, Sako et al. teaches the method of claim 26, wherein one of the at least two frame sync signals is a frame sync signal of a certain bit pattern, and another is a frame sync signal of another bit pattern (column 9, lines 12-20). Neither reference explicitly teaches the values of "100 101" and "101 010". It would have been obvious matter of design choice to modify Sako et al. to have the specific values for the frame sync ID, since the applicant has not disclosed that those specific values solves any stated problem or is for any particular purpose and it appears that any ID numbers would perform equally well as long as they are unique in comparison to other regions.

Regarding claim 28, Kuroda et al. discloses the method of claim 27, wherein a first of the at least two frame sync signals and a second frame sync of the at least two frame sync signals are recorded in order between two data sections (shown in figure 7 by elements 42 and explained in column 12, lines 8-15).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of keeping the ID of the frame sync signal unique as taught by Sako et al. into the system of Kuroda et al. in view of Tomita. The motivation would be to have the frame be detectable due to the unique pattern (column 9, lines 12-20 of Sako et al.).

4. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuroda et al. in view of Tomita in view of Nakagawa et al., US Patent 6,879,637.

Kuroda et al. in view of Tomita teaches the limitations of claim 15, but fails to teach the further limitations of claim 16.

Regarding claim 16, Nakagawa et al. teaches the recording medium of claim 15, wherein the signal distance between the at least two frame sync signals is at least two (column 9, lines 28-30).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of the signal distance and the position detector as taught by Nakagawa et al. into the system of Kuroda et al. in view of Tomita. The motivation would be to make sure the sync signals have such patterns that they may be distinguished from one another (column 6, lines 1-4 of Nakagawa) and to provide a more reliable pattern for a sync signal (column 6, lines 17-20 of Nakagawa).

5. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuroda et al. in view of Tomita in view of Fujimoto et al., US Patent 6,191,903.

Kuroda et al. in view of Tomita teaches the limitations of claim 20, but fails to teach the further limitations of claim 22.

Regarding claim 22, Fujimoto et al. teaches the method of claim 20, further comprises, determining whether a current position is a front or rear of a data section based on the at least one of the at least two frame sync signals (column 2, lines 4-10).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of detecting current position based on the frame sync signal as taught by Fujimoto et al. into the system of Kuroda et al. in view of Tomita. The motivation would be to make it possible to restore the data to be successively reproduced (column 2, lines 4-10 of Fujimoto et al.).

Response to Arguments

6. Applicant's arguments with respect to all claims have been considered but are not persuasive. Applicant contends that the signals are not unique. However, this was not previously claimed and is now rejected appropriately.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Parul Gupta whose telephone number is 571-272-5260. The examiner can normally be reached on Monday through Thursday, from 9:30 AM to 6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on 571-272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PHG
1/4/08

/William Korzuch/
SPE, Art Unit 2627